

CONSIDERING

# solar panels?

HERE IS WHAT  
TO KNOW:



**SolarEnergyWorld**  
Because Tomorrow Matters

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# Considering Solar Panels? Here's What to Know.

In recent years, there has been more of an interest than ever in renewable energy sources. Solar remains the main topic in conversation because it's a much cleaner, safer investment that generates huge results that homeowners don't have to feel guilty about.

In this comprehensive guide, you'll gain all the insider knowledge you need to understand how easy it is to invest in solar and make a positive change for the environment—and your bank account.



# The Basics About Solar

## What Are Solar Panels & How Do They Work?

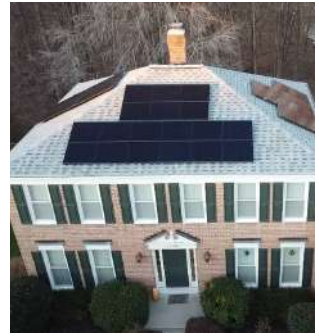
Solar panels are devices that sit on the roof of your home or on the ground near it. The panels, often called photovoltaic panels or PVs, are designed to absorb the energy from the sunlight that hits them. When this happens, it allows the panels to hold onto that energy and converts it into electricity that powers your home.



## How Do Solar Panels Generate Electricity?

When direct sunlight strikes the solar panels, the panels activate. When that happens, the solar panels absorb the energy into the PV cells. Those cells create an electrical current which is then converted into AC electricity that can be used in your home.





## What Are The Different Types of Solar Systems You Can Get?

**Grid-tied solar systems:** When most people think of solar systems, they're still thinking about solar panels that light up a single house, with the help of some batteries to store extra power. Today's solar systems are far more likely to be grid-tied, meaning they're connected to the electricity grid, than self-sufficient.

Grid-tied solar systems are a great compromise for most homeowners for several reasons. They're far less expensive than a self-contained system, and you never have to worry about running out of power as long as the grid is running, even during the darkest times of the year.

Connecting solar power systems to the grid doesn't really change how they work. Solar panels still convert sunlight into electricity, which is used to power your home. However, when your home is grid-tied, any short-comings in the solar produced by your panels can be pulled from the grid's electricity pool.

In the same way, if you're making extra electricity at any given time, like while your family is away at work and school, your panels can feed electricity back into the grid. You will generally receive credits for producing power for your electricity grid, often enough to offset any electricity you use from it.

## Do They Work At Night?

No, solar panels do not work at night. They only work during the day to capture solar light from the sun. That does not mean your home will be without power during the night, though. Solar energy can be stored in batteries that can be accessed when the panels are not generating power themselves.

## Do Solar Panels Keep Producing When The Power Goes Out?

Most of the time, solar panels that are on your roof are likely to continue to generate electricity even when the electricity goes out within your community because they still absorb energy! However, if your system is connected to the grid, then they are not likely to generate electricity for you during these periods of electricity outage because they rely on the grid system to function.

## Invest In A Professional For Installation

Solar panel installation requires professional support, and there are numerous steps beyond just purchasing solar panels and placing them on the roof. That's why professional installation is almost always recommended.



## Here's why:

- Professionals will help determine if your home gets enough sunlight to generate enough solar energy.
- The next step is ensuring your roof is in good shape and the right size to support the solar panel system you need.
- A professional installer will then work with you to determine the size and type of solar panel system best associated with your home's needs based on location but also how much power you need to generate.
- When the time comes to install the system, the installation team ensures the bracketing system is placed just as directed by the manufacturer, protecting your warranty on it.
- The solar panels themselves are then placed properly, also protecting the warranty.
- All components that allow for the powering of your home, including battery systems and inverters, are also carefully installed and set up.
- Your electrical system is verified to be safe and properly installed, functioning, and efficient.

## How Do You Find the Right Solar Installer?

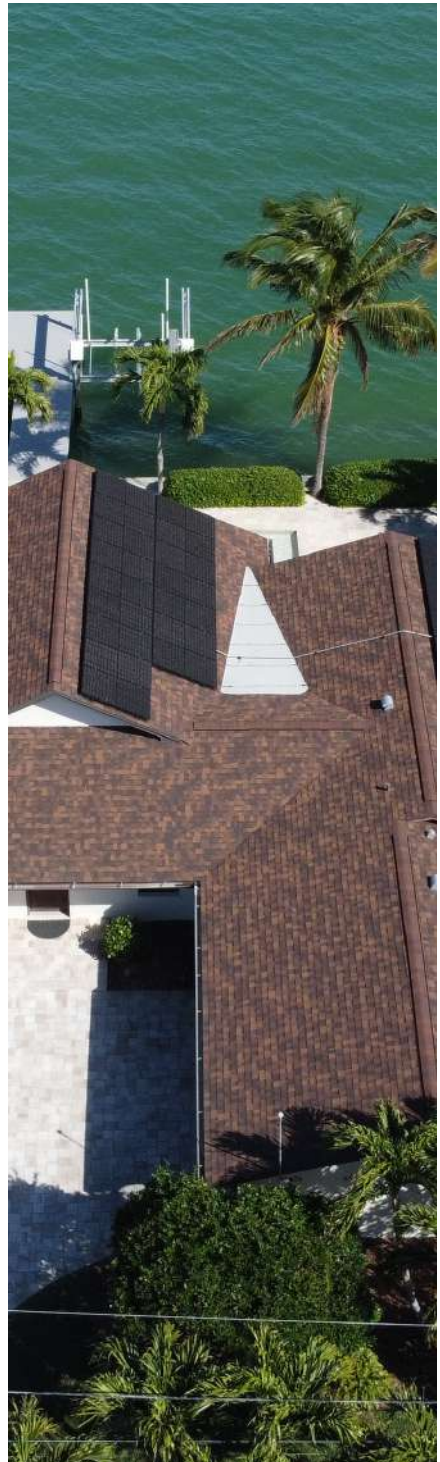
Just as you do some research to determine the best solar panels for homes like yours, you also want to learn as much as you can about the installation company. Who are they? Are they certified? What brands of solar panel systems do they install?

You also want to look for referrals and gather recommendations from others. You want to be sure you are buying a quality product, having it installed properly, and having access to the support you need should there be a need to get it.

Some of the best companies will provide you with the entire process. That includes helping you to choose the most appropriate system for your home and then install it. They also provide service and support should there be a problem with the system down the road. If you need to upgrade later, they can continue to help you.

## How Long Does The Installation Process Take?

The amount of time it takes to install a home solar panel system is dependent on the overall size of your home and your needs. Most of the time, the typical installation takes under six hours by a professional company. There could be a number of weeks to wait prior to installation if there is a situation where the panels themselves are on backorder.



# What Does It Take To Go Solar?

As a homeowner, you're always looking for ways to save money on your energy bills. That's why we wanted to remind you of the many financial benefits of going solar. However, like everything, there are pros and cons of solar panel installation. Though many people talk about what solar panels offer, every property owner also has to have some idea of what the drawbacks could be. This is a significant change in the way your home operates. The good news is that most people will see significant benefits from making that move. As you take into consideration the wide range of options available in solar panels, take a closer look at the full picture.

## Pros of Solar Panels for Homes

### Reduction in electric bills

This is the main reason many people make the switch. Most often, your electric bill will be significantly reduced or, in some cases, eliminated completely. That's because your solar panel system will generate more of the power your home needs from the sun's energy, reducing the amount of power you need to pull from the utility grid that powers a home traditionally. This billing process is called net metering. If you live in an area with net metering, any extra energy you produce for your home could lead to credit for your electric bill.

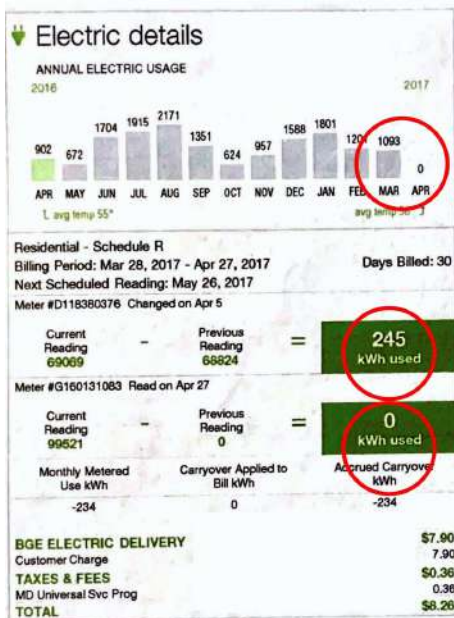
Switching to solar could be the answer you're looking for! By going solar, you can offset your utility bill and enjoy significant savings on your monthly energy expenses.





Find out how much you can save here. The two pages show how much money this customer saved since he went solar. See the difference firsthand that solar power can make on your utility bills, too.

### Compare your utility bill before and after going solar:



The bill allows us to see the difference in his usage and expenses from when BGE was providing his electricity and when he went solar.

**CONTACT US** BGE.COM  
Customer Service: 800.685.0123  
800.735.2258 (TTY-TTD)  
Correspondence: P.O. Box 1475 Baltimore, MD 21203

### Bill Summary

Page 1 of 2

Glen Burnie, MD 21060  
Account # [REDACTED]  
Issued Date: April 28, 2017

|   |               |
|---|---------------|
| Previous Balance                        | \$157.74      |
| Payments Received April 21, 2017        | -\$157.74     |
| BGE Outstanding Balance                 | \$0.00        |
| Electric                                | \$8.26        |
| <b>Total amount due by May 22, 2017</b> | <b>\$8.26</b> |

Payment received after May 22, 2017 will incur a late charge.  
A late payment charge is applied to the unpaid balance of your BGE charges. The charge is up to 1.5% for the first month; additional charges will be assessed on unpaid balances past the first month, not to exceed 5%.  
The amounts shown in the circles reflect charges from this bill period.

The client ended up spending only \$8.26 his first month of having solar only to pay for customer charge!

# What Does It Take To Go Solar?

## **Improve the environment**

Most people want to do their part in protecting the environment. Making the switch to solar panels lets you do that by reducing your carbon footprint. Solar energy does not create carbon like other types of energy sources do. That carbon is what pollutes the environment from the air to the waterways. Solar panels have about 20 times less carbon footprint throughout their lifetime than the use of coal-generated electricity. After the first three years of your use, your carbon footprint is eliminated.

## **Reduce dependence on utility power**

Some people want to make the switch because it enables them to reduce their dependence on fossil fuels and the utility grid itself. If you have suffered a power outage that has lasted a long time, you may want to consider the value of an off-grid system that helps you to be less reliant on the electricity that's generated by the electrical utilities in your area.

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## **It could improve your home's value**

Solar panel systems are typically a plus when it comes to adding value to your home. It's a good idea to consider your home's ability to generate enough power to eliminate electric bills, though. If you live in an area where there is less of an impact, the value of a solar panel system may be less than what you expect in terms of value added to your home.

# What Does It Take To Go Solar?

## **It can be an affordable investment**

There is a wide range of solar incentives available. There's financing available, too. In many ways, your state or federal government rebates can help you to save money on your taxes by switching to solar energy. That makes it a more affordable investment than many realize.

## **They work in cold weather**

Most solar panel systems work efficiently during the winter months, just as they do in the warmer periods of the year. Solar panels can sometimes be more efficient during the winter months, depending on the amount of solar light they receive. More so, these systems are built to be highly durable and can handle the winter weather.



# What Does It Take To Go Solar?

## **Cons of Solar Panels for Homes**

There are some drawbacks to using solar panels, especially in some areas. That's why it helps to learn as much as you can about the use of solar panels in your community.

### **Not all homes can go solar**

Solar panels can be installed on most homes, but not on all of them. Manufactured homes and townhomes sometimes do not qualify, and you must own your home. Homes also must have good sun exposure. A professional solar panel installer can evaluate your home to determine if it is a good candidate for solar panel installation.

### **Not all roofs can support them**

Though many homeowners today can invest in solar panels, some homes may not be suitable for them. For example, if the condition of your roof is not good or made with an incompatible material, you will need to replace your existing roofing to install a solar system.

### **Installation isn't always DIY**

It would be best to work with a professional solar panel installer as the process can be difficult and dangerous. Fortunately, you can work closely with an installation team and get in-depth insight into every step of the process.

Fortunately, there are many more pros than cons when it comes to investing in solar panels. Most homeowners will find that the installation process to be fairly quick and headache-free, and once they're done, all they have to do is sit back and reap the benefits!

# Your Home's Value With Solar Panels

Installing the best solar panels for home use on your property could increase the value of your home by a significant amount. Many property owners will see a boost in home value should they go to sell their home in the years after installing it. The amount of increased value depends on multiple things.

Studies have shown that people will pay more for a home that has solar panels and a solar power system than one that does not. The amount depends on many factors. Generally, homes with solar installations sell for about 4.1% more (according to Zillow) than those without. Solar panels on homes are a valuable investment, and many people want to benefit from them but do not want to put out the initial dollar investment into them. Buying a home with solar already installed, though, is financially savvy.

## **What Factors Influence the Property Value of a Solar Home?**

The key to remember is that every home is different. How much value do solar panels add to your home? That depends on multiple factors. Things like how much you are currently paying for electricity, location, and the overall age of the system could play a role in what the system is worth to the next person buying your home. Here are some of the most common things to focus on to better understand the impact solar panels have on your home.

### **Location**

Solar panels are more valuable in some areas than others. For example, communities where there is a significantly higher amount of solar energy through direct sunlight typically get the best bang for their investment. In these areas, homes can generate more or all of the energy they need from solar, reducing costs otherwise. Also, some markets simply are more demanding of eco-friendly alternatives to solar power.



According to the Solar Energy Industries Association, there are 10 states that have the biggest benefit from solar, and in these areas, home values are likely to be more impacted when solar panels are on the home:

1. California
2. Texas
3. Florida
4. North Carolina
5. Arizona
6. Nevada
7. Georgia
8. New Jersey
9. Massachusetts
10. Virginia

That doesn't mean if you live in another state that solar will not be a viable and beneficial option. It very much could be. How much value do solar panels add to your home, then? You'll need to learn a bit more about the local real estate market and the number of property owners with solar panel systems who recently sold.

## **Electricity Rates**

Electricity costs in your area factor into the value of a solar panel. The more expensive it is to use electricity in an area, the more valuable solar panel systems are. The key benefit of solar panels is that they eliminate or reduce your reliance on solar panels.

Solar panels can be used to store power in a battery system. That means when the sun goes down, your battery can continue to power your home. That makes them less dependent on electricity, reducing your need to pull from the grid.

If you live in an area where the cost of electricity is high, this is going to be a desirable feature for potential home buyers (California, Colorado, and Florida are examples of these areas). Take some time to compare your electricity costs to those in another state. You'll see just how much of an impact this could make on your purchase!

## **Age of the Solar System**

Today's solar systems are designed to last. Some are able to last 20 to 25 years, but others are up to 40 years. During the early years, the system was newer, and that means it has more life left in it than an older system. For those who are considering the purchase of a home, a system that was installed less than 5 or 10 years ago is great because it means it has most of its life to go. A system that's over 25 years old may no longer have the same boost to a home's value.

## **Solar Panel Ownership**

A key factor to keep in mind when considering solar panels on homes is who owns them. If you purchased the solar panels yourself and own them outright, that is going to improve your home's sale value. If, on the other hand, you have a leased solar panel system, that could negatively impact the value of the home. Though you can transfer these to a new buyer, it is less of a benefit to the new property owners.

## **How Do They Affect Property Taxes?**

Something also important to consider is the value of solar panels on property tax. If you have a solar panel system installed on your home, it could improve the value of your home. That could increase taxes, right? Some states have new laws in place that do not allow for that. To find out what the case is in your situation, contact your local taxing authority to find out.

## **Are Buyers Looking for Homes with Solar Panels?**

This really depends on your area. Many people are interested in solar panels, and some may not be willing to buy a home unless there are panels on it. Yet, most people do not buy solely because the home has a system in place. It's a nice added feature in some areas.

# How Many Do You Need?

It's important to remember that there is no one answer to how many solar panels you'll need. The number varies from home to home and on other factors such as geographic location, the types of panels you choose, and more. You'll want to consider these factors, and the ones below, long before you make the jump to buy solar panels.

## **Determine How Much Power You Need First**

To determine how many solar panels are needed for the average home, the first step is to determine how much power you need. Solar panels can power everything in your home that relies on electricity.

The easiest way to determine this is to look at your current electrical bill. Most often, this will list the number of kilowatt hours (KWH) that your home uses each month. The size of your home, the location, and how energy efficient your home all plays a role in determining how much power you need. Look at the average daily energy usage from your bill. That will help you to determine how many solar panels you need.

## **Understand How Peak Sunlight Hours Play In**

One factor that plays a role in the number of panels you need is the amount of peak sunlight hours you need. Solar panels only generate electricity when they have direct sunlight. When the sun sets, they are not able to produce energy. Peak sunlight hours is the term used to describe the number of hours when your panels are in that direct sunlight path. Peak sunlight hours depend on where you live. Some areas, such as in the south, have many more hours of sunlight than those in the north.

To determine your needs, multiply the hourly energy usage you need by the number of peak sunlight hours the home gets. Then, divide that number by the wattage of the panel that you are planning to purchase. This helps you to determine how much power you need. During the installation process, you'll learn more about how much power your panels can generate.





# Weight & Size Explained

There are numerous configurations and sizes of solar panels. Some are more efficient than others. Most of the time, a residential solar panel will be about 65 inches by 39 inches. Each manufacturer's product could be a bit different, but all will tell you the size of the solar panels.

## **What Is The Best Size?**

The best-sized solar panel is one that fits your home's needs. Most of the time, a 60 to 72-cell solar panel is a good option for residential properties and smaller commercial locations. Larger options exist as well, including those with 96 cells. These are typically about 17.5 square feet in size but can be too large in this format for some home roofs.

## **Are There Multiple Sizes?**

Yes, various sizes of solar panels are available and can be customized to your home's specific measurements. There are three common sizes readily available for most residential properties. That includes a 60-cell, 72-cell, and 96-cell solar panel system. Most of the time, residential properties do not need more than the first two options as the largest size can be much larger, and that means they are less likely to fit properly on your roof unless it is a larger home.

## **How Much Do They Weigh?**

Before you invest in a solar panel system, you will need to estimate how much power you need. That will help to determine the number of panels needed for your home. In turn, that helps you to know how much weight you can expect to add to your home if you install a solar panel system on your home.

On average, solar panels weigh about 40 pounds each. A professional installer can help you to determine the overall weight that a solar panel may add to your roofing system.

# Weight & Size Explained

## Can Your Roof Support A System?

To find out, it is best to have your home's roof inspected by an expert to determine if it is structurally sound.. It may be a concern if there is any structural damage to the roof or if it is very old.

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# Different Ways To Go Solar

## **Today solar is affordable for almost everyone**

Should you purchase your solar panel system or go solar with a \$0 Down PPA/solar lease?

Either way, you save.

## **RateGuardian™ PPA/Solar Lease \* 20-30% Savings, No Money Down**

Our Zero-Down Solar Power Purchase Agreement (PPA), makes it possible for you to pay \$0 up front costs for solar panels and installation. With approved credit, you can have a solar power system installed and start paying at least 20% less than your current monthly electric bill.

**How it works?** We install solar panels on your roof or property at no cost to you and then sell you the electricity it produces at a locked in rate that is lower than what your utility company charges you. Your obligation is to pay only for the electricity generated by the panels.

## **Solar System Purchase – Up to 100% Savings, Plus Earn Profits**

If you decide to purchase a solar panel system you start saving on energy costs as soon as the solar panel system is operational. But you may have an upfront investment. We'll review the numbers based on the size of your home and system. On average, solar homes generate a 125% return on investment within 5-7 years. By year 20, homeowners can expect to achieve a 500% return on investment.

**How it works?** We will go over all the details about your solar panel system, including cost and power generation. Then we take care of everything to get it up and running. You will generate the power that you use in your home. When you generate excess energy, you can sell that back to the grid.

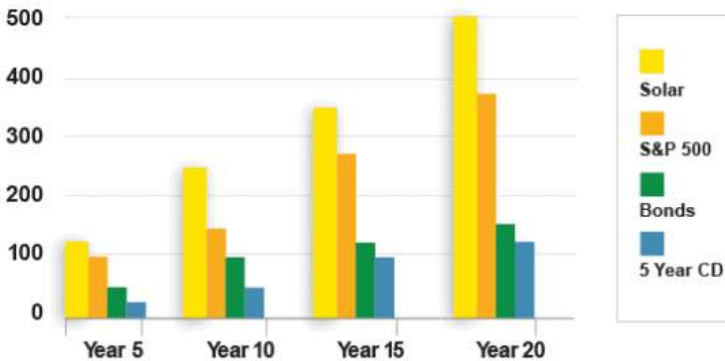
# Different Ways To Go Solar

## Is Purchase Affordable?

It's a lot less difficult to purchase a solar panel system than many people think. Buying a solar system is similar to purchasing a car.

Most people do not pay cash for a car and most people do not pay cash for a solar system. There are many financing options, including an option where a customer can own the solar panel system for \$0 down and just have low monthly payments. It is also possible to be cash flow positive on day one. Most things you purchase depreciate in value after time. A car's value decreases as soon as you drive it off the lot. A solar electric system's value actually increases over time.

## Typical Solar Return on Investment (ROI for Purchase)



# Different Ways To Go Solar

## Quality is Our Only Choice

Regardless of whether you purchase, lease or sign up for our RateGuardian(TM) PPA, you will receive the same superior solar panel service and support. Our work is always guaranteed and we are here to support you moving forward. Our financial options make solar power available to every homeowner in the region.

## Solar Pricing Overview Chart



|                              | <b>PURCHASE SYSTEM</b>     | <b>RATEGUARDIAN™ PPA/LEASE<br/>(POWER PURCHASE AGREEMENT)</b> |
|------------------------------|----------------------------|---|
| Initial Investment?          | \$0 to full purchase price | \$0   |
| Monthly Utility Bill Savings | 50-100%                    | 20-30%  |
| Does System Generate Income? | Yes                        | No  |
| Tax Incentives?              | Yes                        | Included  |
| Do You Own The System?       | Yes                        | Possible  |
| System Warranty?             | Yes                        | Yes   |
| Energy Monitoring?           | Yes                        | Yes   |
| Earn Referral Rewards?       | Yes                        | Yes   |

# Because Tomorrow Matters

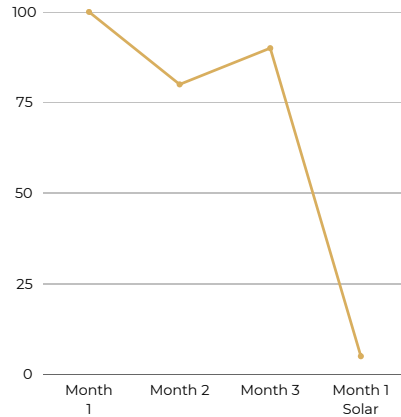
Just like many other Americans, you must have rolled your eyes when you saw your utility bill for this month.

With the new 30% Federal Tax Credit and flexible financing and payment options, it has never been easier or more affordable to go Solar.

Solar Energy World is America's choice for premium, quality, durable, high-performance solar panels. Made for the North American market means quality you can trust and customer service you can count on.

Don't just take our word for it and check out what our happy customers have to say about their experience with Solar Energy World just below:

**Your usage bill per month before and after going solar**



## CUSTOMER REVIEWS

"Solar installation was great! SEW was white-glove from beginning to end; easy to work with and very organized and reliable. They even replaced my roof at a competitive cost. The panels look great! "

Stephen, Tacoma Park, MD



## CUSTOMER REVIEWS

"Our electric bills have dropped by two-thirds. We have highly recommended Solar Energy World to friends."

Vince & Linda Fisher



# Because Tomorrow Matters

## CUSTOMER REVIEWS

"I am completely satisfied with the work of Solar Energy World. It took me a couple of years of talking, quotes, discussions and getting educated on solar energy before I moved forward. Still hesitant mostly because the timeline was 6 months long, I was fortunate to have Solar Energy World holding my hand, answering my questions, and keeping me informed on each step along the way. Nick was my point of contact who stayed with me from sale to installation and beyond along with helping to make sure the financial benefits from installing solar were applied for after installation. It truly was a positive experience."

Vince & Linda Fisher



**We are here to help you save money:**

At Solar Energy World, our team of experienced professionals will work with you every step of the way, from the initial consultation to the installation and beyond. We're committed to helping you achieve energy independence and savings for years to come.

**14**

years of experience

**23K**

solar installations across  
the East Coast

**100%**

in-house company



# Because Tomorrow Matters

When you invest in Solar Energy World, you are getting superior performance, quality and durability backed by a dedicated team you can rely on. Our sleek all-black residential solar panels are designed to look great on your rooftop. The light weight-frame is exclusively designed for wide ranging raking compatibility and durability.


Book your free 5-minute solar discovery call now by clicking on the link below and choosing a time that works for you.




## Contact us:

We can't wait to speak with you soon and help you take the first step towards a brighter, cleaner energy future.

If you have any questions or want further information, you contact us now:

 (667) 318-1210

 [solarenergyworld.com](http://solarenergyworld.com)

